

# Experimental composer headlines events examining art-science connections

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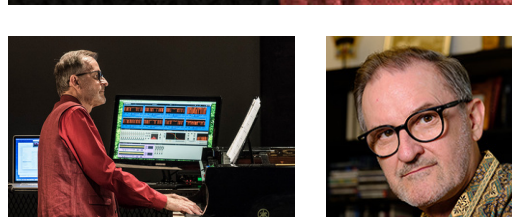
BY JODI HECKEL | ARTS AND HUMANITIES EDITOR | 217-300-2751

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David Rosenboom, a pioneer in experimental music, will lecture, perform and conduct workshops with students during a two-week series of events beginning Oct. 3. “Experimental Arts & Sciences at UIUC” is hosted by the School of Music.

Photo by Maximo Parpagnoli

CHAMPAIGN, Ill. — A two-week series of performances, workshops and lectures will explore connections between art and science in celebration of the history of experimental music at the University of Illinois Urbana-Champaign. The event series will feature composer, performer and George A. Miller visiting professor [David Rosenboom](#), who studied at the U. of I. [School of Music](#) in the 1960s.

“[Experimental Arts & Sciences at UIUC](#)” is Oct. 3-14 and is hosted by the School of Music.

[Anastasia Chernysheva](#), a doctoral student in [history](#), organized the event series. Her dissertation research examines the history of using brain data for musical performance and related explorations in experimental aesthetics. Chernysheva said she was inspired by her research on experimental music at the U. of I. to revive the spirit of unrestrained collaboration across disciplines epitomized by the [Festival of Contemporary Arts](#) that the U. of I. hosted from the late 1940s through the early 1970s. She also wanted to provide an interdisciplinary event to connect researchers interested in the intersections of art and science.

“I think it’s valuable to encourage more people to get into unknown fields and make explorations,” she said.



David Rosenboom

Photo by Rafael Hernandez

Rosenboom – a professor of musical composition at California Institute of the Arts, where he served as dean for 30 years – will deliver the keynote [MillerComm lecture](#), “Neuromusic – Propositions from an Art-Science Convergence,” on Oct. 3.

Rosenboom is known as a pioneer in experimental music. He was a U. of I. music student at a time of great creativity and

innovation.

“The creative environment of that time in the School of Music was phenomenal. It was one of the few major centers in the world where this kind of exploration was really taking off,” Rosenboom said.

He worked with Lejaren Hiller, among others, who programmed the first computer-produced piece of music, “Illiac Suite,” and studied composition with Salvatore Martirano, another of the first composers to use computer technology for composition and the inventor of two electronic music systems. Hiller founded the [Experimental Music Studios](#) in 1958, one of the earliest electroacoustic music studios in the U.S.

“When it was founded, it was an incredibly experimental thing to do to use a computer to make music. Now, computers do nearly everything, but the spirit of experimentation remains,” said [Eli Fieldsteel](#), the director of the Experimental Music Studios and a professor of composition-theory.

Rosenboom became interested in what he now calls propositional music – using compositional modeling as a conceptual framework to explore new ideas through music – as well as interactive performances. He was an early experimenter in integrating brain biofeedback with music technology, and he co-developed a computer music instrument and wrote software for experimental music.

His [Brainwave Music](#) uses neurofeedback during live performances with electronic music systems. Participants are monitored for their brainwave activity through an electroencephalogram. Software analyzes changes in the frequency spectrum of the brain, and the music playing through an electronic system evolves in response. Brain activity then responds to the changes in the music.

“The shifts reflect shifting states of mind and shifting attention as the sound environment gets more rich and complex, and (the participants) are reacting to that complexity,” Rosenboom said.

He’ll perform a brainwave music piece Oct. 13 with two participants connected to an EEG. Rosenboom will join the performance playing an electric violin. The concert will open and close with a brass quintet, along with an electric rhythm section and a singer-speaker during the final piece. Rosenboom will perform several solo pieces on a computer-interfaced piano. [Ben Grosser](#), a professor of new media and the co-founder of the Critical Technology Studies Lab at the National Center for Supercomputing Applications, designed an interactive video projection to accompany the music. Grosser also studied composition with Martirano in the 1990s, and he’ll participate in a panel discussion with Rosenboom on Martirano’s legacy.

Rosenboom will be part of an Oct. 14 workshop and demonstration with [Mattia Gazzola](#), a [mechanical science and engineering](#) professor and co-director of the [Mind In Vitro](#) project. The project envisions computing systems built out of living neurons that will be able to sense and interact with their environment.

The demonstration will record the signals of cultures of living neurons and link the data to a computer music instrument, then determine if the sound produced stimulates a reaction from the neurons, producing a new biofeedback system.

“We’re demonstrating that we can make this link in the way we do with performers’ EEGs, and experiment with doing that with living cultures outside the brain, which is phenomenal,” Rosenboom said.

Other events include a demonstration of the SalMar Construction, the electronic instrument invented by Martirano; a discussion of sonification, or mapping data to sound; guest lectures and workshops with students in the music school’s Experimental Music Studios, Electric Strings program, and improvisation and composition groups; and a guest lecture in a library school computer music class.

“We’re going to cover a lot of territory in these events. We’ll be talking about where these unique art-science explorations come from, sharing ideas and trying things never done before,” Rosenboom said. “I hope people come away with a lot of questions and lots of excitement and inspiration and discoveries of their own. Maybe being confronted with unusual ways of thinking about things they may not have encountered before will be something that inspires them in their own work.”

**Editor’s notes:** To contact Anastasia Chernysheva, email [ac79@illinois.edu](mailto:ac79@illinois.edu).

More information about the event series is available [online](#).



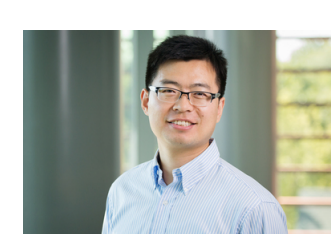
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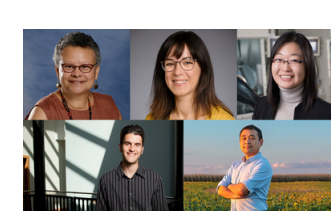
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